



**SEI** **SOC** **2023** **CELEBRATING**  
**CONFERENCE** **STRUCTURAL**  
**ENGINEERING**

21-23 JUNE 2023 • TE PAE, CHRISTCHURCH

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# CONFERENCE PROGRAMME



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### WEDNESDAY 21 JUNE 2023 – PRE CONFERENCE ACTIVITIES

15.00 – 17.00	ESE Pathway - Mentoring Session - Tūranga (Christchurch Library)
17.00 – 18.00	Conference Registration - Level 1 Foyer, Te Pae
18.00 – 19.30	Icebreaker Function - Meet and Greet in Waitaki River Room (Sponsors and Exhibition Area), Level 1, Te Pae

### THURSDAY 22 JUNE 2023 – DAY 1

7.30 – 8.30	<b>Registration/Coffee and Tea</b> Waitaki River Room (Sponsors and Exhibition Area)
8.30 – 9.00	Mihi Whakatau / Jaden Whiunui Response Room: Conway
9.00 – 9.05	Conference Welcome - SESOC President <b>Associate Prof. Nicholas Brooke</b> Room: Conway
9.05 – 10.00	<b>Keynote 1 - The Structural Engineer's Role in Getting to Net Zero - Megan Stringer, Holmes US</b> Chair: Associate Prof. Nicholas Brooke Room: Conway
10.00 – 10.30	<b>Morning Tea</b> Waitaki River Room - Sponsors and Exhibition Area
10.30 – 12.00	<b>Session 1 - City Link Rail "New Zealand's Largest Transport infrastructure project ever."</b> Chair: Prof. Jason Ingham
10.30 – 10:50	Implementing Sustainability on the CRL Project <b>Nick Braxton: Principal Sustainability Advisor - CRL Link Alliance</b>
10.50 – 11.10	Structural Design of Maungawhau/Mt Eden Station Building <b>Robyn Murray – Senior Structural Engineer - CRL Link Alliance</b>
11.10 – 11.30	Structural Design of Karanga-a-Hape Station: squeezing in top-down and bottom-up. <b>John Mitchell - Principal Structural Engineer - CRL Link Alliance</b>
11.30 – 11.50	CRL Te Waihorotiu sustainability in design and construction <b>Ethan Page – Senior Structural Engineer - CRL Link Alliance</b>
11.50 – 12.00	Questions and Conference Announcements
12.00 – 13.00	<b>Lunch</b> Waitaki River Room - Sponsors and Exhibition Area
13:00 – 14.00	<b>Keynote 2 - Future Aotearoa: Where Engineering meets Te Ao Tūroa - Dr Alayna Rā, WSP</b> Chair: Dr. Charlotte Toma Room : Conway
14.00 – 15.10	<b>Session 2 - Engineering NZ / MBIE - Panel Discussion Occupational Regulation</b> Chair: Paul Campbell <b>Panel: Michelle Grant / Amy Moorhead / Hamish McKenzie / Paul Kirby/ Jodi Caughley</b> Room: Conway
15.10 – 15.30	<b>Afternoon Tea</b> Waitaki River Room - Sponsors and Exhibition Area

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### THURSDAY 22 JUNE 2023 – DAY 1

15.30 – 17.00	<b>Session 3A - Conway</b> <b>Topic 1: Building Code and Professional Practice</b> <b>Chair: Carl Ashby</b>	<b>Session 3B - Bealey B4+B5</b> <b>Topic 2: Emerging Structural Engineers</b> <b>Chair: Dr Charlotte Toma</b>	<b>Session 3C - Bealey B3</b> <b>Topic 3: Research and Development</b> <b>Chair: Dr Enrique del Rey Castillo</b>	<b>Session 3D - Bealey B2</b> <b>Topic 4: Seismic Design and Strengthening</b> <b>Chair: John Tait</b>
15.30 – 15.50	Canterbury Earthquake Legacies: Guidance to Support Residential Recoveries Following Future Natural Disaster Events <b>David Brunson - Kestrel Group</b>	15.30 - 15.45 A Raft of Challenges - Design and Construction Challenges of the Christ Church Cathedral Foundation Retrofit <b>Laura Schwass - Holmes Group LP</b>	Design advice for FRP ties on diaphragms <b>Enrique del Rey Castillo - University of Auckland</b>	Case Study: Te Waihorotiu Metro Station – Seismic Considerations for the Oversight Development <b>Stephen Lowde - Aecom</b>
15.50 – 16.10	Establishing Cordons for Post Damaged Structures using known Failure Mechanisms and Predictive Collapse Patterns <b>Stephanie Rae - ZFA Structural Engineers</b>	15.45 - 16.00 Te Waihorotiu - The Role of Construction Phase Services (CPS) <b>Chloe Leach - WSP</b>	Buckling Restrained Braces - Issues and Solutions <b>Gregory MacRae - University of Canterbury</b>	Lincoln University Waimarie building: A Case study for low damage design with self-centring friction connections <b>Ashkan Hashemi - University of Auckland*</b>
16.10 – 16.30	National Seismic Qualification Framework for Non-Structural Elements <b>Jan Stanway - WSP*</b>	16.00 - 16.15 Investigating the potential vulnerability of modern residential houses to ground deformations <b>Max Dawson - University of Canterbury</b>	Case Study to Evaluate the Seismic Force Demand on Floor-Anchored Nonstructural Components <b>Tal Feinstein - Oakland California - Exponent, (2 Jack Moehle, University of California, Berkeley)</b>	Design recommendations for seismic strengthening of singly reinforced walls with FRP <b>Zhibin Li - University of Auckland</b>
16.30 – 16.50	Grouted Structural Connections in Precast Concrete-Specification / Construction/Assurance <b>Barry Brown - Fraser Thomas Ltd</b>	16.15 - 16.30 Resilient, Durable and Functional Design of Steel Structures for the Tauhara Geothermal Power Plant <b>Ben Hendry - Beca</b>	An Adaptation of the Uniform Force Method <b>Brandt Saxey - Corebrace*</b>	Ngā Kāinga Anamata: Structural Engineering for a sustainability focussed housing project <b>Brad Nichols - Robert Bird Group*</b>
16.50 – 17.00	Questions / Discussion	16.30 - 17.00 Questions and ESE Forum / Discussion	Questions / Discussion	Questions / Discussion
17.00	Day 1 Close - Session Chairs to Close			
18.00 – 19.00	<b>Pre-dinner drinks and networking</b> Waitaki River Room, Te Pae			
19.00 – Late	<b>Conference Dinner and SESOC Awards</b> Rakaia River Room, Te Pae			

\*Refer to the conference mobile app for additional presenters and abstract details.

## CONFERENCE PROGRAMME

### FRIDAY 23 JUNE 2023 – DAY 2

8.00 – 8.30	<b>Registration Opens</b> Tea/Coffee - Waitaki River Room - Sponsors and Exhibition Area			
	Conference Day 2 Welcome			
8.30 – 9.30	<b>Keynote 3 - Sky City Convention Centre Fire - Prof Charles Clifton, UoA &amp; Dr Linus Lim, Holmes Consulting</b> Chair: Dr Enrique Del Rey Castillo Room: Conway			
9.30 – 10.30	<b>Session 4 - Lightning Talks</b> Chair: Prof. Jason Ingham Room: Conway			
9.30 – 9.50	The Carbon Conversation <b>Steph Miller - Holmes Group LP</b>	500 Buildings Stripped Naked <b>Charlie Heath - GHD</b>	Is ChatGPT the Solution for Streamlining Structural Design in Construction and Engineering Industries? <b>Alice Xu - Arup</b>	Producer Statements for structural Engineering work - a sometimes unreasonable reliance?. Is a rethink on PS2's required? <b>Barry Brown - Fraser Thomas</b>
9.50 – 10.10	Avoiding complaints <b>Martin Pratchett - Engineering New Zealand</b>	What is the difference between Architects and Artists? <b>Helen Trappitt</b>	The Hawke's Bay Engineering Leadership Group: Co-ordinating Engineering Efforts in Response to Cyclone Gabrielle <b>Aaron Kaijser - Kotahi</b>	Are you interviewing a structural engineering graduate? <b>Quincy Ma, University of Auckland</b>
10.10 – 10.15	Diversity Agenda <b>Charlotte Downes</b>			
10.15 – 10.30	Session 4 Questions and Conference Announcements			
10.30 – 11.00	<b>Morning Tea</b>			
11.00 – 12.30	<b>Session 5A - Conway</b> Topic 1: Building Code and Design Updates Chair: Prof. Jason Ingham	<b>Session 5B - Bealey B4+B5</b> Topic 3: Project Case Study - Sustainability Chair: Dr Enrique Del Rey Castillo	<b>Session 5C - Bealey B3</b> Topic 3: Emerging Structural Engineers Chair: Libby Porter	<b>Session 5D - Bealey B2</b> Topic 4: Industry / Product Specific Design Issues Chair: John Snook
11.00 – 11.20	SESOC Interim Design Guidance for Conventional Structural Systems - Summary of v11 Updates: Building Structures and Foundations <b>Stuart Oliver - Holmes Group LP</b>	Reducing embodied carbon: quantifying the impact of structural design and seismic resilience, and how they support government climate change objectives <b>Katie Symons - MBIE*</b>	11.00 - 11.15 Early Engagement of Non-Structural Seismic Restraint Specialists <b>Georgi Clarke - Beca</b>	Mechanical anchors for reinforcement bars in New Zealand: Testing & Compliance to NZS 3101 and NZTA Bridge Manual <b>Emanuele Naccini - Reid Construction Systems*</b>

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### FRIDAY 23 JUNE 2023 – DAY 2

11.20 – 11.40	Toward regularising regulatory reviews <b>Alasdair Sinclair - Robert Bird Group</b>	Sustainability Aspects of Peka Peka to Ōtaki (PP20) Expressway Project Bridges <b>Jamil Khan - Beca</b>	11.15 - 11.30 Enhance Your Structural Analysis Workflow: Techniques for Streamlining Your Approach to Set-Up, Build, Analyse, and Design Structures. <b>Alice Xu - Arup</b>	Behaviour of large FRP ties for seismic strengthening of concrete diaphragms <b>Junrui Zhang - University of Auckland</b>
11.40 – 12.00	Using P21-tested systems and bracing units in structures with specific engineering design <b>Martin Pratchett - Engineering New Zealand</b>	Designing Sustainable Low-Rise Buildings – Development of a Design Guidance Manual <b>Raed El Sarraf - WSP</b>	11.30 - 11.45 Streamlining Design Review with Parametric Modelling: A Case Study of Christ Church Cathedral <b>Agata Skoneczna - Beca</b>	The State of Practice in SSI Modelling in New Zealand: Results from an Engineering Profession Survey <b>Theo Hnat - University of Canterbury</b>
12.00 – 12.20	Capacity Design of Nominally Ductile RC Wall Systems in New Zealand <b>Timothy Blackburn - WSP</b>	Uncertainty, inertia, and forcing functions: how to overcome barriers to low-carbon design in structural engineering <b>Phoebe Moses - Beca</b>	11.45 - 12.20 Questions for Speakers and ESE Forum Wrap Up	Best practice design of support of precast panels during construction <b>David Lyes - Downer*</b>
12.20 – 13.00	<b>Lunch</b> Waitaki River Room - Sponsors and Exhibition Area			
13:00 – 14:30	<b>Session 6A - Conway</b> <b>Topic 1: Project Case Studies</b> <b>Chair: John Snook</b>	<b>Session 6B - Bealey B4+B5</b> <b>Topic 2: General Practitioners</b> <b>Session</b> <b>Chair: Martin Pratchett</b>	<b>Session 6C - Bealey B3</b> <b>Topic 3: Industry Topics</b> <b>Chair: John Tait</b>	
13.00 – 13.20	Stabilising the Christ Church Cathedral <b>John Hare - Holmes Group LP</b>	13.00 - 13.10 EGP Presedents Welcolme <b>Peter Van Grinsven - PVG Design Ltd. Structural Engineers</b>	AWEC: A Collective Voice for Change <b>Annie Scott - Jensen McArlay and Associates</b>	
13.20 – 13.40	Seismic Strengthening and assessment of the Parkside hospital building, Christchurch <b>Nick Kerrigan - WSP*</b>	13.10 - 13.25 Reflections of a General Practice Flying Engineer <b>Gordon Hughes - G A Hughes &amp; Associates Limited</b>	Integrating Structure with Architecture: Designing for Uncertainty and Managing Regularity <b>Alistair Cattanaach - Dunning Thornton Ltd*</b>	
13.40 – 14.00	Design of Te Pae Christchurch Convention Centre – connecting spaces with complex geometries <b>Bruce Galloway - Holmes Group LP</b>	13.25 - 13.40 Sheds and Shed Houses <b>Ian Watson - I L Watson Consulting Engineer Ltd</b>	NZS3604 vs US IRC – Design of Non-Engineered Buildings in New Zealand and the United States - Items of Interest to Practicing Engineers <b>Michelle Grant - LGE Consulting Ltd*</b>	
14.00 – 14.20	Five-storey Light Timber-Framed Multi-unit Residential Buildings on Concrete Podiums - Design Challenges and Learnings <b>Jay Auman - Silvester Clarke Consulting Engineers*</b>	13.40 - 13.55 Regulation and Proposal for Registration Levels <b>Tamlyn Adams - LDE</b>	CROSS – Sharing knowledge to create a safer built environment <b>Peter Ho - CROSS-AUS Ltd*</b>	

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14.20 – 14.30	Questions / Discussion	13.55 - 14.10 Do No Harm <b>Pete Van Grinsven - PVG Design Ltd. Structural Engineers</b>	Questions / Discussion (10min)
		14.10 - 14.30 EGP Forum <b>Nick Calvert, Matt Stewart + all Speakers</b>	
14.30 – 15.00	<b>Afternoon Tea</b> Waitaki River Room - Sponsors and Exhibition Area		
15.00 – 16.00	<b>Keynote 4 - Scott Base - Designing New Zealand's climate research base in Antarctica, Jamie Lester, WSP</b> Chair: Carl Ashby Room: Conway		
16.00 – 17.00	<b>Session 7 - Seismic Risk Working Group</b> Chair: Carl Ashby Room: Conway		
16.00 – 16.25	Speaker 1 - John Hare		
16.25 – 16.50	Speaker 2 - Prof Ken Elwood		
16:50 – 17.00	Questions / Discussion		
17.00	<b>Conference Closure - Carl Ashby - 2023 Conference Convenor</b>		

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